

89695

Methods of Obtaining p-n Junctions ... S/139/61/000/001/003/018  
E036/E435

potassium  $\sim 90$  V, Li  $\sim 30$  V, As  $\sim 20$  V. These differences cannot be explained by differences in the initial resistivities of the germanium. The growth of current is attributed to: 1. tunnelling by a Zener mechanism; 2. impact ionization of atoms within the junction by the current carriers in the strong electric fields of the junctions. In diodes prepared from material of greater than  $0.5 \Omega \text{ cm}$  the current growth is by impact ionization. The differing critical voltages are due to the differing depths of the energy levels associated with the impurity atoms. This depth determines the field at which ionization occurs. The dynamic characteristics of diffused Ge diodes and alloyed Si diodes are shown in Fig.4; the static characteristics are plotted in Fig.5,  $I \text{ mA cm}^{-2}$  vs  $V$  in volts. Ga-As diodes of the p-type have characteristics resembling those plotted in Fig.4. The method of producing alloyed Si diodes is not detailed, reference being made to work by M.P.Yakubenko (Ref.3) where the wetting properties of titanium alloyed with Ag, Ni, Cu etc (the "active phase") are discussed. In earlier work of the author (Ref.1) this system had been applied to Si and the nature of the bond between Si, the active phase and the Ti was investigated. The system has

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X

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Methods of Obtaining p-n Junctions ... S/139/61/000/001/003/018  
E036/E435

rectifying properties, the Ti apparently behaving as an acceptor.  
There are 5 figures and 3 Soviet references. ✓

ASSOCIATION: Sibirskiy fiziko-tekhnicheskoy institut pri Tomskom  
gosuniversitete imeni V.V.Kuybysheva (Siberian  
Physicotechnical Institute of Tomsk State University  
imeni V.V.Kuybyshev)

SUBMITTED: September 22, 1959 (initially)  
June 20, 1960 (after revision)

Card 6/8

Methods of Obtaining p-n Junctions..

S/139/61/000/001/003/018  
EO36/E435

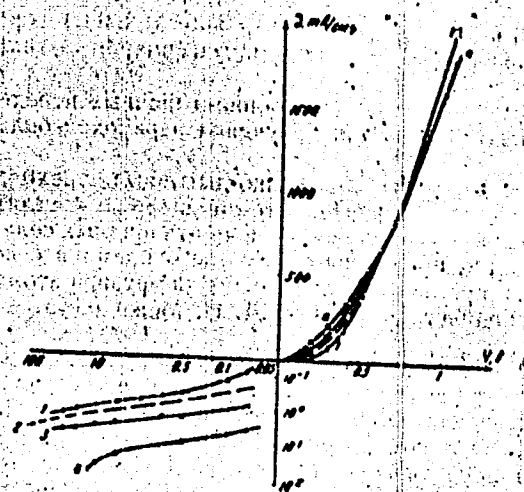


Рис. 1.

Fig.1.

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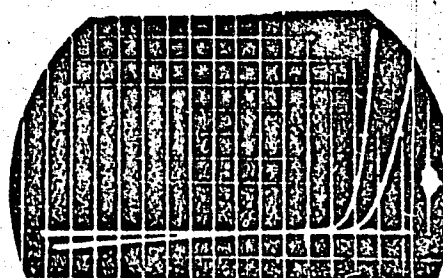


Рис. 4.

Fig.4.

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Methods of Obtaining p-n Junctions..

S/139/61/000/001/003/013  
E036/E435

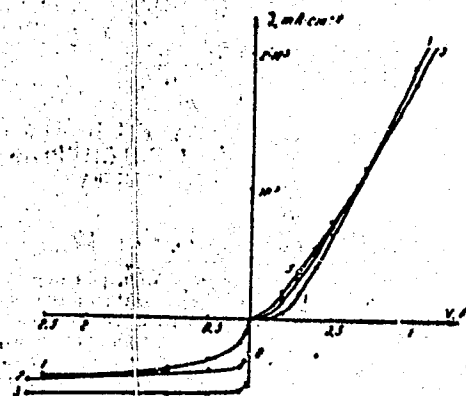


Рис. 5.  
Fig. 5.

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1 12820-63	EMP(a)/EM(a)/ENS	APPTG/ASD	JD
ACCESSION NR: AT3003016	8/2927/62/000/000/0259/0266		
AUTHOR: Presnov, V. A.; Vyatkin, A. P.; Novotnyy, S. I.; Khludkov, S. S.; Villisov, A. A.			
TITLE: Investigation of rectifying properties of gallium arsenide [Report at the All-Union Conference on Semiconductor Devices, Tashkent, 2-7 October, 1961]			
SOURCE: Elektronno-dy*rochnyye perekhody* v poluprovodnikakh. Tashkent, Izd-v* AN UzSSR, 1962, 259-266			
TOPIC TAGS: GaAs rectifier			
ABSTRACT: The work is a continuation of research in point-contact diodes and diffusion junctions in p-type GaAs (Presnov, V. A., at al. Reports at the 3-rd Vuz Conference on Modern Dielectrics and Semiconductors, Leningrad, 1960). GaAs was prepared with resistivities from a few $10^{-4}$ to $10^{-1}$ ohm.cm. Only n-GaAs exhibited good rectifying properties; diodes with 0.005-0.01 ohm.cm resistivity and $10^{17}$ - $10^{18}$ cm <sup>-3</sup> electron concentration showed a good rectification factor, large forward currents, low cutoff voltages, and reverse voltages of 5-10 v. Higher-resistivity diodes showed a higher reverse voltage, a smaller forward current, and			
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L 12820-63

ACCESSION NR: AT3003016

a high on/off voltage. Current-voltage characteristics were measured within 20-350C. Effect of strong electric fields on GaAs ohmic point contacts was measured with 20-microsec pulses at 200 cps; it was found that the strong field produces carriers by ionizing impurity centers. Also effect of forming on the current-voltage characteristics was measured. A separate investigation was made of diffusion p-n junctions of p-GaAs: current-voltage characteristics of junctions obtained by diffusion of Ge, Se, and S were measured. "The authors express their deep gratitude to A. P. Izergin who prepared GaAs and to B. A. Selivanov, A. M. Palkin, and P. I. Zakharov for their help in the work." Orig. art. has: 9 figures and 2 formulas

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 15 May 63

ENC1: 00

SUB CODE: PH

NO REF SOV: 009

OTHER: 006

Card 2/2

KHLUDKOV, S.S.

10

Investigation of the kinetic characteristics of highly doped indium antimonide. V. A. Kokoshkin (10 minutes).

Synthesis, doping, and preparation of single crystals of gallium arsenide. A. P. Izergin, A. G. Grizor'yeva, V. N. Chernigovskaya, G. M. Ikonnikova.

Crystallization of gallium arsenide under different pressures of arsenic vapor. S. S. Khlubkov, V. A. Celivanova, G. M. Ikonnikova.

Influence of impurities on the electrical properties of gallium arsenide. M. A. Krivov, Ye. V. Malisova, C. V. Malyanov.  
(Presented by M. A. Krivov--15 minutes).

Report presented at the 3rd National Conference on Semiconductor Compounds, Kishinev, 16-21 Sept 1963

L 3367-66 EWT(1)/EWT(m)/T/EWP(t)/EWP(b)/EWA(h) IJP(c) JD/GS

ACCESSION NR: AT5020491

UR/0000/64/000/000/046/0456

AUTHORS: Khludkov, S. S.; Vyatkin, A. P.; Grishin, V. I.; Presnov, V. A. (Professor)

TITLE: Diffused p-n junctions in gallium arsenide

SOURCE: Mezhvuzovskaya nauchno-tehnicheskaya konferentsiya po fizike poluprovodnikov (poverkhnostnyye i kontaktnyye yavleniya). Tomsk, 1962. Poverkhnostnyye i kontaktnyye yavleniya v poluprovodnikakh (Surface and contact phenomena in semiconductors). Tomsk, Izd-vo Tomskogo univ., 1964, 446-456

TOPIC TAGS: gallium arsenide, pn junction, sulfur, germanium, selenium

ABSTRACT: Diffused p-n junctions in p-type gallium arsenide, p-n junctions in n-type GaAs, and also p-p-p structures in p-type GaAs were studied, and the methods of producing these junctions are discussed. The p-n junctions were produced by diffusion of sulfur and germanium in evacuated quartz ampules ( $10^{-4}$ - $10^{-5}$  mm Hg) with subsequent annealing, grinding, and etching (5% NaOH + 30% H<sub>2</sub>O<sub>2</sub> in 5:1 ratio).

The p-n-p structures were prepared by diffusion annealing of GaAs in selenium vapors at 750-11000 for 0.5-22 hrs with selenium concentration in the vapor of

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L 3367-66

ACCESSION NR: AT5020491

$5 \cdot 10^{17}$  -  $9 \cdot 10^{19}$  cm<sup>-3</sup>. The static volt-ampere characteristic of a junction produced by diffusion of sulfur into p-type GaAs is shown in Fig. 1 on the Enclosure. The germanium-diffusion junctions in the p-type GaAs had rectification factors of up to  $4 \cdot 10^5$ , while those produced by sulfur diffusion had a factor of  $6 \cdot 10^3$ . In the case of n-type GaAs, the germanium-diffusion junctions had a rectification factor of about  $7 \cdot 10^4$ . The volt-ampere characteristic of contacts in GaAs-Ga<sub>2</sub>Se<sub>3</sub> film is shown in Fig. 2 on the Enclosure. Orig. art. has: 7 graphs, 2 diagrams, and 2 formulas.

ASSOCIATION: none

SUBMITTED: 060ct64

ENCL: 02

SUB CODE: 88

NO REF SOV: 003

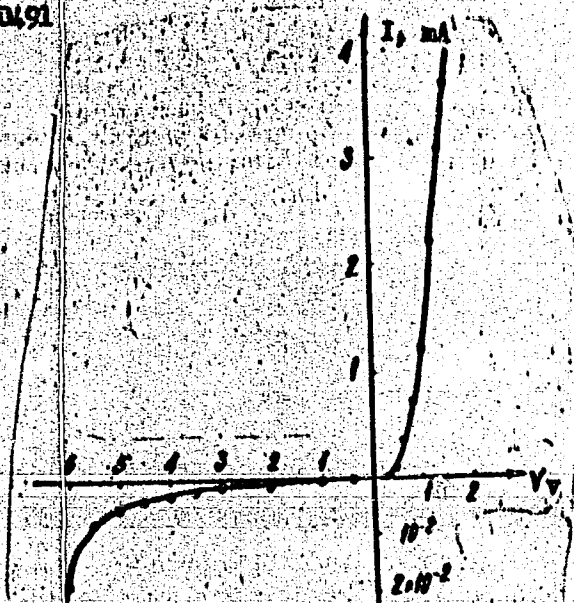
OTHER: 007

Cord 2/4

L 3367-66

ACCESSION NR: AT3020491

ENCLOSURE: 01



Cord 3/4

Fig. 1. Static volt-ampere characteristic of junction produced by diffusion of sulfur into p-type GaAs

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ACCESSION NR: AT5020493

ENCLOSURE: 02



Fig. 2.  
Volt-ampere characteristic of contacts in GaAs-Ga<sub>2</sub>S<sub>3</sub> film

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L 15943-66 EWT(m)/T/EWP(z)/EWP(b) IJP(c) JD/JG

ACC NR: AT6002261

SOURCE CODE: UR/2564/65/006/000/0275/0290

AUTHOR: Presnov, V.A.; Selivanova, V.A.; Khludkov, S.S.

ORG: none

TITLE: Preferred direction of growth of gallium arsenide crystals [Paper presented at the Third Conference on Crystal Growing held in Moscow from 18 to 25 November, 1963]

SOURCE: AN SSSR. Institut kristallografi. Rost kristallov, v. 6, 1965, 275-280

TOPIC TAGS: crystal growth, gallium arsenide, crystal orientation

ABSTRACT: The preferred direction of growth of semiconductor crystals of type  $A^{III}B^V$ , in this case GaAs, was studied at various pressures of the volatile component (As). Analysis of the crystals obtained showed that the directions of crystals grown at equilibrium pressure of arsenic over the melt are grouped near the main crystallographic direction  $\langle 110 \rangle$ . The effect of the polarity of this direction on the growth of GaAs crystals was determined as a function of the conditions of growth. The crystallographic orientation of these crystals is retained even when deviations from the stoichiometric composition are substantial. A possible mechanism of the growth of GaAs crystals with a preferred orientation from a melt is given in terms of the electron configurations of the As and Ga

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L 15943-66

ACC NR: AT6002261

atoms. The role of the  $\{111\}$  and  $\{110\}$  crystallographic planes in the growth is discussed. Orig. art. has: 6 figures and 1 table.

SUB CODE: 20 / SUBM DATE: none / ORIG REF: 009 / OTH REF: 004

F10  
Card 2/2

ARTAMONOV, K.I.; LEBEDEV, N.I.; YERGALIYEV, E.Ye.; LESECHKO, A.K.;  
YAKUSHIN, M.V.; KAZAKOV, V.N.; BRYUKHANOV, N.G.; NIKITINA, L.I.;  
KHVESYUK, F.I.; Prinimali uchastiye: MATVEYEV, A.T.; KOVALEV, S.N.;  
ROMANOV, V.S.; MARCHENKO, B.P.; ZUDOVA, T.I.; OMAROV, M.N.;  
PECHENKIN, S.N.; LUKIN, Ye.G; KHLUDKOV, V.I.

Shaft-furnace copper smelting with an oxygen-enriched blow.

TSvet. met. 34 no.3:32-39 Mr '61.

(MIRA 14:3)

1. Irtyshskiy polimetallicheskiy kombinat (for Artamonov, Lebedev, Yergaliyev, Lesethko, Matveyev, Kovalev, Romanov, Marchenko, Zudova, Omarov). 2. Vsesoyuznyy nauchnoissledovatel'skiy institut tsvetnykh metallov (for Yakushin, Kazakov, Bryukhanov, Nikitina, Khvesyuk, Pechenkin, Lukin, Khludkov).

(Copper—Metallurgy) (Oxygen—Industrial applications) \*

SAVITSKIY, K.V.; KHLUDKOV, A.N.

Effect of thermocyclic treatment on the mechanical properties of  
aluminum. Izv. vys. ucheb. zav.; fiz. no. 3:158-160 '64.

(MIRA 17:9)

1. Sibirskiy fiziko-tekhnicheskii institut pri Tomskom  
gosudarstvennom universitete imeni Kuybysheva.

KHLUDKOVA, A.N.; SAVITSKIY, K.V.

Effect of the quenching temperature on pore formation in  
cyclic thermal treatment of aluminum. Izv. vys. ucheb.  
zav.; fiz. 8 no.6:35-38 '65. (MIRA 19:1)

1. Sibirskiy fiziko-tekhnicheskii institut imeni V.D. Kuznetsova.  
Submitted July 28, 1964.



KHLUDNEVA, K. I.

D. V. Sokolov, G. S. Litvinenko, and K. I. Khludneva, "Conformation of stereoisomers of 2-Methyl-4-ketodekahydroquinoline and 2-Methyl-4-oxydekahydroquinoline and Some of Their Derivatives."

report presented at the Symposium on Concepts of Conformation in Organic Chemistry which took place in Moscow at the IOKh AN SSSR (Institute of Organic Chemistry, AS USSR) from September 30 to October 2, 1958.

Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1959, No. 3, 561-564.

5(3)

AUTHORS:

Sokolov, D. V., Litvinenko, G. S.,  
Khludneva, K. I.

SOV/79-29-4-15/77

TITLE:

III. Stereochemistry of Nitrogen Heterocycles (III. Stereochemiya  
azotistykh geterotsiklov). III. Stereoisomers of  
2-Methyl-4-ketodecahydroquinoline (III. Stereoizomeriya  
2-metil-4-ketodekagidrokhinolina)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1112-1122  
(USSR)

ABSTRACT:

Upon suggestion of the late Academician I. N. Nazarov,  
the authors chose in continuation of their previous papers  
(Refs 1, 2) the easily accessible 2-methyl-4-  
ketodecahydroquinoline (I) as subject of stereochemical  
investigations, which is synthesized from the acetylene  
derivatives (Ref 3) according to scheme 1. It has three  
asymmetric carbon atoms and can theoretically occur in the  
form of four racemates. From among the four possible  
racemates the racemates (II), (III) and (IV), denoted in  
scheme 2  $\alpha$ -,  $\beta$ -, and  $\gamma$ -isomer, were obtained. The fourth  
one, the  $\delta$ -isomer (V) could only be obtained in the form

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## III. Stereochemistry of Nitrogen Heterocycles.

SOV/79-29-4-15/77

## III. Stereoisomers of 2-Methyl-4-ketodecahydroquinoline

of its benzoyl derivatives (Va) (for details see table). On repeated fractional recrystallization of the hydrogen chloride salts (I) from anhydrous alcohol the compounds (VII) and (VIII) resulted. The results of the investigation indicate that the initial mixture of the isomers of 2-methyl-4-ketodecahydroquinoline (I) consists chiefly of the stable  $\alpha$ - and  $\gamma$ -isomers (II and IV) and partly of the less stable  $\beta$ -isomer (III). The very unstable  $\delta$ -isomer (V) in the mixture apparently does not occur. For the time being it is not possible to solve the problem whether on the closure of the piperidine ring (see the scheme) immediately the more stable  $\alpha$ - and  $\gamma$ -isomers (II) and (IV) or, at first, the less stable  $\beta$  and  $\delta$  isomers (III) and (V) are formed on the double bond of the cyclohexane ring. The  $\delta$ -isomer (V) is rapidly transformed into the  $\gamma$ -isomer (IV); the  $\alpha$ - and  $\beta$ -isomers undergo mutual transformations by way of the hydrochloride into which compound (I) must be converted in order to separate it from neutral compounds. Thus, the conditions for the mutual transformations of stable isomers into unstable ones, and vice versa, are found.

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III. Stereochemistry of Nitrogen Heterocycles.

SCV/79-29-4-15/77

III. Stereoisomers of 2-Methyl-4-ketodecahydroquinoline

There are 1 table and 9 references, 4 of which are Soviet.

ASSOCIATION: Institut khimicheskikh nauk Akademii nauk Kazakhskoy SSR  
(Institute of Chemical Sciences of the Academy of Sciences  
of the Kazakhskaya SSR)

SUBMITTED: March 6, 1958

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5.3400

78266

SOV/79-30-3-20/69

AUTHORS:

Sokolov, D. V., Litvinenko, G. S., Khudneva, K. I.

TITLE:

Stereochemistry of Nitrogen-Containing Heterocycles.  
VIII. Benzoic Esters of 2-Methyl-4-Hydroxydecahydro-  
quinoline and 1,2-Dimethyl-4-hydroxydecahydroquinoline  
Isomers. New Anesthetics

PERIODICAL:

Zhurnal obshchey khimii, 1960, Vol 30, Nr 3,  
pp 831-838 (USSR)

ABSTRACT:

This article is a continuation of previous work (Zhurnal  
obshchey khimii, 29, 3204 (1959); Ibid, 29, 3555 (1959)  
and is devoted to synthesis of benzoic esters of the  
five common alcohols (VII, mp 134°; VIII; mp 128°;  
XI, mp 144°; XII, mp 158°) with rings joined trans,  
and alcohol (XIII, mp 115°) with rings joined cis, as  
well as benzoic esters of these alcohols with methyl  
radicals at the nitrogen (scheme 2).

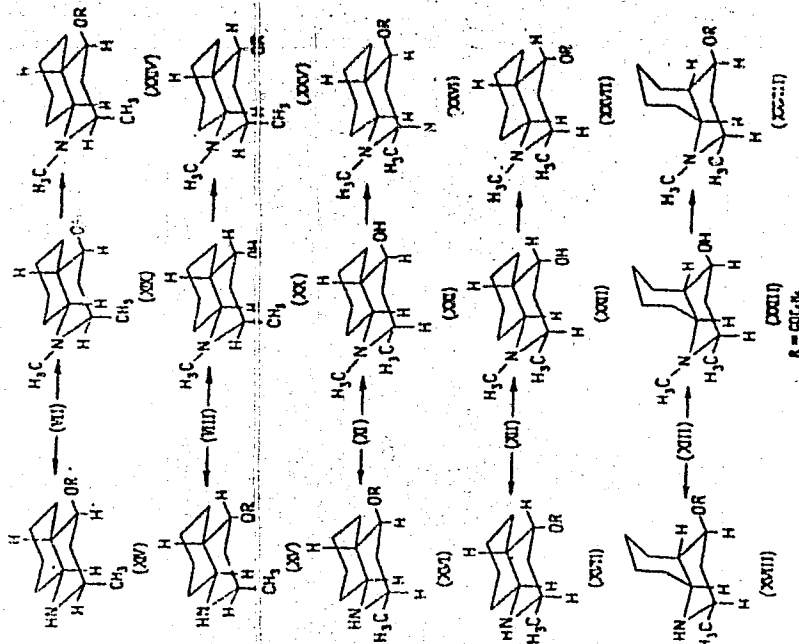
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Stereochemistry of Nitrogen-Containing  
Heterocycles. VIII

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SOV/79-30-3-20/69

Scheme 2.



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Stereochemistry of Nitrogen-Containing  
Heterocycles. VIII

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Heating the hydrochlorides of racemic alcohols (VII), (VIII), (XI), and (XII) with benzoyl chloride results in good yield of benzoic esters of 2-methyl-4-hydroxy-decahydroquinoline, (XIV), (XV), (XVI), and (XVII). Benzoic ester (XVIII) was obtained from N-benzoyl derivatives of alcohol (XIII) by the method described previously (above ref). The properties of the obtained esters are shown in Table 3. Heating the same alcohols with a mixture of formaldehyde and formic acid yields (90%) five corresponding racemates of 1,2-dimethyl-4-hydroxydecahydroquinoline, (XIX), (XX), (XXI), (XXII), and (XXIII). The properties of the obtained compounds are shown in Table 2. Compounds were converted into corresponding benzoic esters, (XXIV), (XXV), (XXVI),

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(XXVII) and (XXVIII). They are shown in Table 4. The majority of the synthesized compounds have strong anesthetic properties surpassing that of novocain, and especially cocain; some of them were comparable to dicain. The obtained compounds were tested at the Alma-Ata Medical Institute (chair of pharmacology) and at the Institute of Physiology of the Academy of Sciences of the Kazakh SSR (pharmacology laboratory), under the direction of I. I. Sivertsev. There are 4 tables; and 8 Soviet references.

ASSOCIATION: Institute of Chemical Sciences of the Academy of Sciences of the Kazakh SSR (Institut khimicheskikh nauk Akademii nauk Kazakhskoy SSR)

SUBMITTED: March 19, 1959

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Table 2

		A			
		B	C	D	E
(XIX)	a) $C_{11}H_{21}ON$	30	93.5	116-117	
	b) $C_{11}H_{22}ONCl$			238-239	
	c) $C_{17}H_{21}O_8N_4$			149-149.5	
(XX)	a) $C_{11}H_{21}ON$	20	92.5	148-149	
	b) $C_{11}H_{22}ONCl$			257-258	
	c) $C_{17}H_{21}O_8N_4$			175-176	
(XXI)	a) $C_{11}H_{21}ON$	15	90.2	87-88	
	b) $C_{11}H_{22}ONCl$			173-175	
	c) $C_{17}H_{21}O_8N_4$			140-142	
(XXII)	a) $C_{11}H_{21}ON$	25	79.2	130-131	
	b) $C_{11}H_{22}ONCl$			150-151	
	c) $C_{17}H_{21}O_8N_4$			192-193	
(XXIII)	a) $C_{11}H_{21}ON$	25	80.0	99-100	
	b) $C_{11}H_{22}ONCl$			192-194	
	c) $C_{17}H_{21}O_8N_4$			149-151	

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Table 3

		A			
		B	C	D	E
(XIV)	a) $C_{17}H_{23}O_2N^*$		183-190 <sup>p</sup>	84.6	
	b) $C_{17}H_{21}O_2NCl$		—	—	283-284 <sup>o</sup>
	c) $C_{23}H_{29}O_2N_4$		—	—	208-209
(XV)	a) $C_{17}H_{23}O_2N$		197-198	64.0	77-78
	b) $C_{17}H_{21}O_2NCl$		—	—	269-271
	c) $C_{23}H_{29}O_2N_4$		—	—	256-257
(XVI)	a) $C_{17}H_{23}O_2N$		190-193	53.6	87-87.5
	b) $C_{17}H_{21}O_2NCl$		—	—	270-272
	c) $C_{23}H_{29}O_2N_4$		—	—	249-241
(XVII)	a) $C_{17}H_{23}O_2N^{**}$		197-199	83.5	
	b) $C_{17}H_{21}O_2NCl$		—	—	214-215
	c) $C_{23}H_{29}O_2N_4$		—	—	271-273
(XVIII)	a) $C_{17}H_{23}O_2N [?]$		135-140	50.2	75-76
	b) $C_{17}H_{21}O_2NCl$		—	—	304-305
	c) $C_{23}H_{29}O_2N_4$		—	—	216-217

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\*  $d_4^{20}$  1.0669,  $n_D^{20}$  1.5390,  
\*\*  $d_4^{20}$  1.0874;  $n_D^{20}$  1.5380,

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Table 4

		$\beta$	$\alpha$	$\delta$	$\epsilon$
(XXIV)	a) $C_{18}H_{22}O_2N$	160—165°	99.0	62—63°	
	b) $C_{18}H_{20}O_2NCl$	—	—	269—270	
	n) $C_{21}H_{24}O_2N_4$	—	—	—	
(XXV)	a) $C_{18}H_{22}O_2N^*$	160—165	84.0	41—42	
	b) $C_{18}H_{20}O_2NCl$	—	—	204—205	
	n) $C_{21}H_{24}O_2N_4$	—	—	233—234	
(XXVI)	a) $C_{18}H_{22}O_2N^{**}$	145—150	97.0		
	b) $C_{18}H_{20}O_2NCl$	—	—	217—218	
	n) $C_{21}H_{24}O_2N_4$	—	—	192—193	
(XXVII)	a) $C_{18}H_{22}O_2N^{***}$	140—145	87.7		
	b) $C_{18}H_{20}O_2NCl$	—	—	F	
	n) $C_{21}H_{24}O_2N_4$	—	—	212—213	
(XXVIII)	a) $C_{18}H_{22}O_2N$	150—155	95.0	57—58	
	b) $C_{18}H_{20}O_2NCl$	—	—	232—234	

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\*  $d_4^{20}$  1.0844,  $n_D^{20}$  1.5417,  
 \*\*  $d_4^{20}$  1.0702,  $n_D^{20}$  1.5380,  
 \*\*\*  $d_4^{20}$  1.0723,  $n_D^{20}$  1.5368,

Stereochemistry of Nitrogen-Containing  
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SOV/79-30-3-20/69

Table 2. (A) Properties of isomeric 1,2-dimethyl-4-hydroxydecahydroquinolines and their derivatives; (B) formulas of isomers (a), their hydrochlorides (b) and picrates (c); (C) methylation time (in min); (D) yield (%); (E) mp.

Table 3. (A) Properties of 2-methyl-4-hydroxydecahydroquinoline benzoates and their derivatives; (B) formulas of benzoates (a), their hydrochlorides (b), and picrates (c); (C) benzoylation temperature; (D) yield, (%); (E) mp.

Table 4. (A) Properties of 1,2-dimethyl-4-hydroxydecahydroquinoline benzoates and their derivatives; (B) formulas of benzoates (a), their hydrochlorides (b) and picrates (c); (C) benzoylation temperature; (D) yield (%); (E) mp; (F) hygroscopic.

Card 8/8

119666-66	EST(1)/EWA(h)	SOURCE CODE: UR/0286/65/000/019/0100/0100
ACC NR: AP5026552		
AUTHORS: <u>Slivitskiy, B. A.</u> ; <u>Khludov, A. I.</u>		41 B
ORG: none		
TITLE: A direct current logarithmic amplifier, Class 42, No. 175316 [announced by Organisation of the State Committee on the Use of Atomic Energy (Organizatsiya gosudarstvennogo komiteta po ispol'zovaniyu atomnoy energii)]		
SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 19, 1965, 100		
TOPIC TAGS: amplifier, direct current, linear approximation, automatic regulation		
ABSTRACT: This Author Certificate presents a d-c logarithmic amplifier containing an input amplifier stage, modulator, a-c amplifier, and a demodulator. The amplifier is designed to increase the calculation precision and to broaden the logarithmic operation range. The negative feedback circuit contains a linear approximation circuit for the exponential function. The input of this exponential approximation circuit is connected to a clipper circuit for automatically switching the operation mode of the input tube from a linear mode to a logarithmic mode with large values of the input current in the mildly sloping part of the logarithmic characteristic.		
SUB CODE: 09/	SUBM DATE: 25Apr64	
Cord 1/1		UDC: 621.375.024:681.142

KHLUDOV, Aleksey Vasil'yevich; VINEMYAGI, D.K., redaktor izdatel'stva;  
TONER, A.M., tekhnicheskij redaktor.

[Hot-water supply] Goriachee vodosnabzhenie. Izd. 4-oe, perer.  
Moskva, Gos.izd-vo lit-ry po stroit. i arkhit., 1957. 463 p.  
(MLRA 10:4)

(Hotwater supply)

KHLUDOV, A.V.

Hot water supply in an apartment house at the Red Gates in Moscow.  
Vod.i san.tekh.no.1:22-28 Ja '57. (MLRA 10:3)  
(Moscow--Hot-water supply)

KHLUDOV, A.V.

Corrosion in the hot-water supply system of an apartment house at  
the Red Gates in Moscow. Vod. i san. tekhn. no. 4:5-8 Ap '57.

(Moscow--Hot-water supply)

(MLRA 10:6)

(Corrosion and anticorrosives)



KHLUDOVA, Ol'ga Florent'yevna; PROKHODTSEVA, S.Ya., red.;  
SHCHERBINOVSKAYA, T.N., red.; MATVEYEVA, G.Ye., mlad.  
red.; KOSHELEVA, S.M., tekhn. red.

[Behind the blue threshold] Za golubym porogom. Moskva,  
Gos.izd-vo geogr. lit-ry, 1963. 228 p. (MIRA 16:12)  
(Japan, Sea of—Marine biology)

*KHLUDOV, S.V.* 591  
 AUTHORS: Kudinov, B.A., Naydis, V.A., Naletov, S.P., and Khludov, S.V.  
 TITLE: Selection of the Type of Drive for Feed Mechanisms in Heavy Vertical Lathes (Vybor Tipa Privoda Mekhanizmov Podachi Tyazhelykh Karusel'nykh Stankov).  
 PERIODICAL: "Stanki i Instrument" (Machine Tools and Cutting Tools, No. 3, 1957, pp.9-13. (U.S.S.R.)) 28  
 ABSTRACT: A discussion of the advantages and disadvantages of various layouts in a wide range of heavy vertical lathes is accompanied by tables giving speed and feed limits and cutting forces for a range of diameters between 3200 mm and 20 000 mm and the corresponding range of component types between 2000 mm and 6300 mm. The feed and setting-up mechanisms are sub-divided into those with purely electrical and those with electromechanical control, controlled by either a two-speed gear-box or a two-motor drive. Another table for the above range of component sizes gives the installed h.p. for a number of variants belonging to these two classes also illustrated by kinematic diagrams. It is concluded that except for the largest machines, the most appropriate arrangement is the feed drive by an individual d.c. motor with two-speed gear-box control and a separate motor for fast setting-up motions. This arrangement yields the simplest and cheapest complete installation and is most readily standardised for the whole range of vertical lathes.  
 There are 6 illustrations and 4 tables.

ard 1/1

KHLUDOV, S. V.

21 7.1/25

AUTHOR  
TITLE

KUDINOV B.A., NAYDIS V.A., NALETOV S.P., KHLUDOV S.V.,  
The Selection of the Main Drive Type of Heavy Vertical Lathes.  
(Vybor tipa privoda glavnogo dvizheniya tyazhelykh karuselnykh  
stankov -Russian)

PERIODICAL

Stanki i Instrument, 1957, Vol 28, Nr 7, pp 1 - 3, (U.S.S.R.)

ABSTRACT

The development of the heavy metal working benches demands a continuous increase of the possibilities of regulating the main drive velocities because at steady minimum cutting velocity the highest attainable values increase steadily thanks to the perfection of the hard metal tools. For modern vertical lathes the controllability of revolutions amounts from 1 : 80 to 1:100 the main drive may be by means of an asynchronous electromotor via a many-stepped switch box, or well as by means of a controllable direct current motor with a 2-or 4 -stepped switch-box. The direct current drive facilitates the control of revolutions and thus renders it possible to attain the best cutting conditions, which is the case especially when applying a special current transformer. The mechanical part of the drive, compared to the asynchronous motor, is simplified, (2 to 4 steps instead of 18 to 24 of the drive box) but the electric part is somewhat more complicated, which causes a decrease of operational safety, as well as an increase of initial costs; For the present heavy home models of vertical- and turning lathes, direct current motors with a shunt control of 4:1 as well as 3 mechanical switching steps are used, which corresponds

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121-7-1 26

The Selection of the Main Drive Type of Heavy Vertical Lathes.

to a range domain of the faceplate revolving of from 1:64 to 1:85; individual motor converters are built in by 95% of the consumers. Table 1 and 3 illustrations show and explain the method of the most advantageous selection of the drive.

ASSOCIATION      Not Given.  
PRESENTED BY  
SUBMITTED  
AVAILABLE      Library of Congress.  
Card 2/2

GLANTS, I.Ye.; KHLUDOV, V.M.

Modernization of the technological equipment for leather manufacture.  
Kozh.-obuv.prom. 4 no.8:14-16 Ag '62. (MIRA 15:8)  
(Leather industry--Equipment and supplies)

KHLUDOV, V.V., inzhener.

Repair of a turbine generator stator. Elek.sta. 25 no.8:56-57 Ag '54.  
(Dynamos) (MIRA 7:9)

KHLUDOVA, M.S.

GOFMAN, A.; FREY, A.I.; RUTSHMANN, I.; OTT, Kh.; SHEMYAKIN, M.M.; KISHFALUDI, L.; KOCHETKOV, N.K.; DEREVITSKAYA, V.A.; PROKOF'YEV, M.A.; SHABAROVA, Z.A.; FILIPPOVA, L.A.; SHANKMAN, S.; KHAYGA, S.; LIV, F.; ROBERTS, M.Ye.; GAVRILOV, N.I.; AKIMOVA, L.N.; KHLUDOVA, M.S.; MAKSIMOV, V.I.; IZELIN, B.M.; SHEPPARD, R.K.; SHKODINSKAYA, Ye.N.; VASINA, O.S.; BERLIN, A.Ya.; SOF'INA, Z.P.; LARIONOV, L.F.; KNUNYANTS, I.L.; GOLUBEVA, N.Ye.; KARPAVICHUS, K.I.; KIL'DISHEVA, O.V.; MEDZIGRADSKIY, K.; KAFAR, M.; LEV, M.; KORENSKI, F.; BUASSONA, R.A.; GUTTMAN, St.; KHOYGENIN, R.L.; ZHAKENO, P.A.; BAZHUS, S.; LENARD, K.; DUAL'SKI, S.; SHREDER, Ye.; SHMIKHEN, R.; KHOKHLOV, A.S.

Results of the Fourth European Symposium on the chemistry of peptides. Abstracts of reports. Zhur. VKHO 7 no.4:468-476 '62. (MIRA 15:8)

1. Aktsionernoye obshchestvo "Sandoz", Bazel', Shveytsariya (for Gofman, Frey, Ott, Rutshmann).
2. Farmatsevticheskaya fabrika "O.Rikhter", Budapesht, Vengriya (for Kishfaludi, Korenski, Dualski).
3. Institut khimii prirodnikh soedineniy AN SSSR, Moskva (for Kochetkov, Derevitskaya, Shemyakin, Khokhlov).
4. Laboratoriya khimii belka Moskovskogo gosudarstvennogo universiteta (for Prokof'yev, Shabarova, Filippova, Gavrilov, Akimova, Khludova).
5. Fond meditsinskikh issledovaniy, Passadena, Kaliforniya, Sev.Soyed.Shtaty Ameriki (for Shankman, Khayga, Liv, Roberts).
6. Laboratoriya khimii belka Instituta organicheskoy

(Continued on next card)

GAVRILOV, N.I.; AKIMOVA, L.N.; KHLUDOVA, M.S.

Amidine derivatives of aminoacyldioxopiperazines. Coll Cz Chem 27  
no.9:2250 S '62.

1. Moscow State University, U.S.S.R. (for Gavrilov and Akimova).



L 55025-65 ENT(m)/EWP(j)/r PC-4 RM

ACCESSION NR: AP5011856

UR/0189/65/000/002/XX 91/0094

AUTHORS: Khludova, M. S. Akimova, L. M.

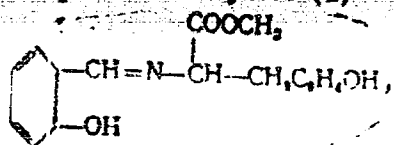
24  
23  
B

TITLE: Synthesis of chelate compounds of certain aminoacid derivatives

SOURCE: Moscow. Universitet. Vestnik. Seriya 2. Khimiya, no. 2, 1965

TOPIC TAGS: aminoacid, chelate compound

ABSTRACT: The paper is an extension of work reported previously by L. M. Akimova and V. B. Kvapishovski (Vestn. Mosk. un-ta, ser. Khimii No. 3, 1965) Procedures for synthesis of methyl 1-tyrosinesalicylate (I)

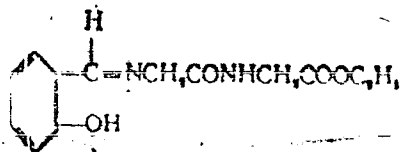


ethyl glycyglycinesalicylate (II)

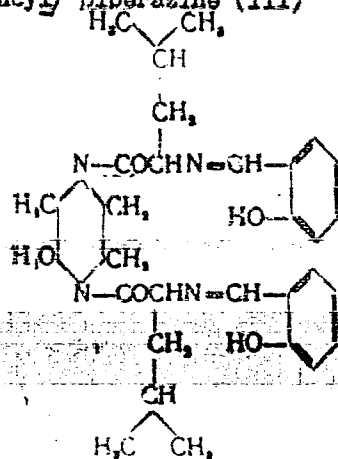
Card 1/3

L 55025-65

ACCESSION NR: AP5011856



disalicylal -  $[N,N'$ -dileucyl] piperazine (III)



Card 2/3



KHLUDOVA, Ol'ga Florent'yevna, khudozhnik-zoolog; SHCHERBINOVSKAYA,  
T.N., red.; MALKIN, B.N., mladshiy red.; VILENSKAYA, E.N.,  
tekhn.red.

[Waves over us] Volpy nad nami. Moskva, Gos.izd-vo geogr.  
lit-ry, 1960. 214 p. (MIRA 13:5)  
(Black Sea--Marine fauna)  
(Azov Sea--Marine fauna)

KUNIN, V.; KHLUDTSEV, A.; RATNER, G.

Arbolit for rural construction. Sel'. stroi. 16 no.6:21-22  
Je '61. (MIRA 14:7)

1. Glvnyy inzh. Giprostandartdoma (for Kunin). 2. Nachal'nik  
otdela novykh stroitel'nykh materialov Giprostandartdoma (for  
Khludtsev).

(Lightweight concrete)

KHLUDTSEY A YE  
 Improving the strength and chemical resistance of containers made from fibrous materials. A. E. Khludtsev, U.S.S.R. 65,960, March 31, 1946. The containers are impregnated with a divinylacetylene lacquer to which is added bitumen, or with a mixt. of divinylacetylene lacquer, laccol, and paraffin. The paraffin is necessary for water-proofing; 3-5% of paraffin suffices. M. Hosh

12000 57121100  
 120003 5119 001 001  
 02111101  
 12000 501110  
 0211111 001 001 111

KHLUDTSEV A. H.		35	
CA			
<p>Improving the strength and chemical resistance of          fibrous materials and products made of them. A. H.          Khludtsev. U.S.S.R. 69,566, Oct. 31, 1947. Addn. to          U.S.S.R. 65,990 (C.A. 41, 1778c). Fibers are impreg-          nated with a mixt. of ketene (?), laccol, and paraffin.          M. Hoesch</p>			
<p>ASS-ILA METALLURGICAL LITERATURE CLASSIFICATION</p>			
<p>BRIDGE DIVISION</p>			
<p>EXHIBIT NO. 1</p>			
<p>EXHIBIT NO. 1</p>			

*R. LAOTSEV, AIF*

... of oil-in-water type. The petroleum of paraffin is *pyrolytic*  
... as a side of a petroleum product or as a product of  
... of the ...



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APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000722110007-1"

KHLUNOV, V. A.

"Effect of the Geometric Parameters of a Sprocket and a Roller Chain on the Working Capacity of a Chair Drive." Sub 2 Jul 51, Moscow Tool and Tool Inst imeni I. V. Stalin

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

KHLUNOV, V. A. and A. A. KUDRIASHOV

Laboratornoe issledovanie tsepnogo privoda. (Vostn. Mash., 1951, no. 2, p. 5-9)

Laboratory research in chain drives.

DLC: TN4.V4

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

KHLUDTSEV, A.Ye., inzhener; CHERKINSKIY, Yu.S., inzhener.

Slag cork made from NSM tar. Nov.tekh.i pered.op.v stroi. vol.19  
no.8:26-28 Ag '57. (MIRA 10:10)  
(Synthetic resins) (Insulating materials)

KHLUDTSEV, A. Ye.

AUTHOR: Khludtsev, A. Ye., Engineer

118-58-5-3/18

TITLE: Automation of the Sawing of Thin Logs (Avtomatizatsiya raspi-  
lovki tonkomernoy drevesiny)

PERIODICAL: Mekhanizatsiya Trudoyemkikh i Tyazhelykh Rabot, 1958, <sup>12</sup> Apr 5,  
pp 10-13 (USSR)

ABSTRACT: The author explains the advantages and efficiency of circular  
saws of special construction for sawing thin logs. The increase  
in output amounts to 8-10%, and the use of conic saws will  
give a further increase of 4-5%. The author has developed  
several types of circular sawing machines for short and long  
trunks by which boards of various dimensions can be cut. The  
expediency of sawing round lumber of any length by disk saws,  
including conic ones, was proved in tests. It was also estab-  
lished that for an increase in output and finished quality,  
other special machines and a special technology of sawing  
are required. The experience of the Luzkiy lesokombinat  
(Luzki Lumber Combine) of the Kirov Sovnarkhoz has proved  
that the output of a double-saw machine when sawing thin logs,  
and of a multiple-saw machine for squared-beam cutting is  
twice as high as that of modern wood-sawing frames for cutting

Card 1/2

Automation of the Sawing of Thin Logs

118-58-5-3/18

thin logs. In addition to the Luzki Lumber Combine, sawing of thin logs with circular saws is carried out by the Permilovskiy, Yakshanga, Shar'inskiy imeni Lenin, Plesetsk and other saw mills. The Industroyproyekt and GPI-2 have manufactured for the Vyatsko-Polyanskiy domostroitel'nyy kombinat (Vyatka-Polyany House Construction Combine) an automatic line for sawing thin logs, 9-20 cm in diameter at the upper cut, and 2-8 meters in length. It was based on 2 types of special circular-saw machines: a four-saw squared-beam cutting machine with a chain feed and a four or eight-saw lengthwise-cutting machine with a rolling feed. The construction of an 8-saw machine is similar to that of a 4-saw one with a rolling feed. There are 4 drawings.

AVAILABLE:

Library of Congress

Card 2/2

1. Wood-Processing    2. Sawmills-Equipment    3. Saws-Applications

KHLUDTSEV, A.Ye., inzh.; CHERKINSKIY, Yu.S., inzh.

New synthetic resins based on waste materials from the chemical  
industry and their use in the manufacture of building materials.  
Sbor. trud. VNIINSM no.2:46-51 '60. (MIRA 15:1)

(Resins, Synthetic)  
(Building materials industry)

FEDOROVA, T.P., kand. tekhn. nauk; KHILUTSEV, A.Ye., inzh.; GERASIMOV,  
V.I., inzh.

Improvement in the quality of semirigid mineral wool slabs.  
Stroi. mat. 11 no.7:31-32 J1 '65. (MIRA 18:8)



KHLUS, A. A.

"Investigation of the Resistance of the Bearing Mechanism in a Caterpillar Agricultural Tractor in Its Operation of Soil." Cand Tech Sci, Khar'kov Polytechnic Inst, Khar'kov, 1954. (RZhMekh, Mar 55)

SO: Sum. No. 670, 29 Sep 55--Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

SOV/124-58-10-10836

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 10, p 18 (USSR)

AUTHOR: ~~Khlos~~, A. A.

TITLE: On the Problem of Rolling Resistance of Supporting Rollers on Caterpillar Tracks in Motion (K voprosu o soprotivlenii kacheniya opornykh katkov po gusenitse)

PERIODICAL: Tr. Khar'kovsk. politekhn. in-ta, 1957, Vol 16, pp 101-110

ABSTRACT: Description of the well-known physical phenomena accompanying the motion of caterpillar tracks on soft earth is given as well as an experimental confirmation of the nonuniform character of the distribution of roller resistance to motion. A description of a dynamometric pin in the caterpillar track used in the experiment is given and two resistance oscillograms for the top and bottom branches of DT-54 and STZ-NATI tractor caterpillar tracks are included.

M. K. Kristi

Card 1/1

KHUS, A.A. kand.tekhn.nauk; GRUNAUER, A.A., inzh.

Using the method of pendulum oscillations in static balancing  
of rotating machine elements. Nauch.dokl.vys.shkoly; mash.i  
prib. no.2:19-28 J1 '59. (MIRA 12:10)

1. Predstavleno kafedroy "Teoriya mekhanizmov i mashin" Khar'kov-  
skogo politekhnicheskogo instituta.  
(Balancing of machinery)

KHLUS, A.A., kand.tekhn.nauk

Determining the dimension and the position of the plane of unbalance  
in static balancing by the method of pendulum oscillations. Izv.  
vys.ucheb.zav.; mashinostr. no.4:18-26 '61. (MIRA 14:6)

1. Ukrainskiy zaochnyy politekhnicheskii institut.  
(Balancing of machinery)

RUMYANTSEV, B.P., dots., otv. red.; GULIDA, E.N., red.; KARTASHOV,  
I.N., prof., red.; KIRILLOV, Yu.G., dots., red.;  
MOGIL'NIY, N.I., dots., red.; SEVRYUK, V.N., dots., red.;  
STAN'KO, D.G., dots., red.; TSOY, N.G., dots., red.;  
KHLUS, A.A., dots., red.; POLUBICHKO, B.V., red.

[Problems of locomotive manufacture, technology of machine  
manufacture and founding] Voprosy lokomotivostroeniia,  
tekhnologii mashinostroeniia i liteinogo proizvodstva.  
L'vov, Izd-vo L'vovskogo univ., 1964. 126 p. (MIRA 17:10)

1. Lugansk. Mashinostroitel'nyy institut.

KHLUSER, G. R.

"Di-Isopropylfluorophosphate in Glaucoma Therapy," Vest. oftalmol., 28, No.2, 1949

KHLUSEV G.R. EXCERPTA MEDICA Sec.12 Vol.10/12 Ophthalmology Dec 56

1895. KHLUSEV G.R. Dept. of Eye Dis., 1st Med. Inst., Moscow. "The administration of phosphacol in glaucoma (Russian text) VESTN. OFTAL. 1955, 34/4 (30-33)

A new miotic, phosphacol, was studied. Phosphacol exerts a powerful anticholinesterase action, is of low toxicity, is easily dissolved in water in the ratio of 1:1000 and does not lose its properties with long storage. The action of phosphacol upon the intra-ocular pressure, on the size of the blind spot and on miosis was tested in 25 patients with various forms of glaucoma. It was established that a single instillation of phosphacol in a solution of 1:5000 lowers the intra-ocular pressure by 4-14 mm. mercury and the pressure remained stable for 1-4 hr.; repeated instillations maintained the lowered tone until measurement was made the next morning. The pupil contracted to the size of 0.5-1 mm.; after a single instillation the narrowing was on an average 2-3 mm. and was maintained for a period from 3-4 hr. up to 48 hr. The size of the blind spot contracted in the vertical meridian by 6-18 degrees and returned to its initial size in 3-5 hr. Phosphacol in a dilution of 1:5000 was administered 2-3 times in 24 hr. in the treatment of 24 glaucomatous patients; the previously systematically prescribed miotics (in the main pilocarpine) were ineffective. In 4 of these patients the glaucoma was absolute, or nearly so; in the others it was a decompensated or subcompensated congestive form of glaucoma in the early stage. The observations were carried on

1895

CONT

for from 6 months to 2 yr. The intra-ocular pressure decreased on an average by 10-12 mm. mercury, normalizing the tonus in the limits of 16-30 mm. The field of vision and the visual acuity remained stable in the majority of cases, but in some the refraction of the glasses required for the correction of the myopia markedly increased which was evidence of an increasing spasm of accommodation. The size (diameter) of the pupil narrowed to 0.75-1.5 mm. The size of the blind spot remained within the limits of 16-25° in the vertical line, increasing up to 28-38°; simultaneously the intra-ocular pressure rose, reaching the high level of 28-30 mm. or even surpassing it (30-38 mm.). In a number of patients the combination of phosphacol with pilocarpine instillations proved to be most effective. The complaints of the patients were: pains of a ciliary character in the eye, headaches on the side of the diseased eye and, sometimes, a bitter taste in the mouth. For illustration purposes short abstracts from case histories of patients treated with phosphacol are adduced,

Dormidontova - Moscow



KHLOSEVICH, P. Col. of Med. Service

"Certain Problems in Connection With the Medical Flight Supervision,"  
Red Star, p. 2, 18 Oct 1956

Summary of article 1071929

PHILUSOV, A. YE., Eng.

Mine Hoisting

CALculating the capacity of a high mine hoist. Mekh. stroi. 9 no. 6 (1952)

9. Monthly List of Russian Accessions, Library of Congress, September 1952 1953, Uncl.

KHLUSOV, Andrey Yefstaf'yevich; MAKHIN, A.A., dots., retsenzents;  
POLYAKOV, V.I., kand. tekhn. nauk, retsenzents; FADEYEV,  
I.Ye., inzh., red.; DUBASOV, A.A., red. izd-va; TIKHANOV,  
A.Ya., tekhn. red.

[Load-lifting and conveying equipment for plants manufacturing construction elements] Gruzopod'emnye i transportnye oborudovaniya zavodov stroitel'nykh detalei. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 356 p.  
(MIRA 15:3)

(Conveying machinery) (Hoisting machinery)

KHLUSOV, Andrey Yevstaf'yevich; POPOV, L.N., kand. tekhn. nauk, retsenzent; GRONDA, V.I., red.; SERGEYEV, V.M., red.; YASHUKOVA, N.V., tekhn. red.

[Exercises and course projects in load-lifting and conveying equipment of building materials plants] Uprazhneniia i kursovoe proektirovanie po gruzopod"emnomu i transportnomu oborudovaniu zavodov stroitel'nykh detalei. Moskva, Rozvuzizdat, 1963. 139 p. (MIRA 17:3)

KHLUSOV, Andrey Yefstaf'yevich; MIKHIN, A.A., dots., retsenzent; POLYAKOV,  
V.I., kand. tekhn. nauk, retsenzent; PADERYEV, I.Ye., inzh., red.;  
DUBASOV, A.A., red. izd-va; TIKHANOV, A.Ya., tekhn. red.

[Hoisting and conveying equipment of plants manufacturing structural  
parts] Gruzopod"emnoe i transportnoe oborudovanie zavodov stroitel'-  
nykh detalei. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-  
ry, 1961. 356 p. (MIRA 14:10)  
(Hoisting machinery) (Conveying machinery)

KHLUSOV, A. Ya., dotsent

Inefficiency of using a single-bucket excavator as a hoisting crane. Sbor. trud. MISI no.39:478-479 '61.  
(MIRA 16:4)

1. Voronezhskiy inzhenerno-stroitel'nyy institut.

(Excavating machinery)  
(Cranes, derricks, etc.)

KHLUSOV, I. Ye

KHLUSOV, I. Ye.

"Investigation of the Operation of External and Internal Water Drains on the Roofs of Residential Buildings in Actual Use." Cand Tech Sci, Sci Res Inst of Construction Engineering, Acad of Architecture USSR, Moscow, 1954. (KL, No 8, Feb 55)

SO: Sum. No. 631, 26 Aug 55-Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14)

**KHLUSOV, I.Ye., insheener.**

Main roofs of apartment buildings with interior water drains.  
Gor.khoz.Mosk. 28 no.4:15-19 Ap '54. (MLRA 7:6)  
(Drainage, House) (Roofs)



~~КЕЛЕСОВ~~ I. Ye., kandidat tekhnicheskikh nauk.

Tile and asbestos cement roofing with built-in gutters for multi-  
story apartment houses. Stroi.prom. 34 no.11:24-27 N '56.  
(Roofing) (Gutters) (MLRA 9:12)

97 - 1 - 7/10

**AUTHOR:** Khlusov, I. I.; Candidate of Technical Science.

**TITLE:** Assembled Reinforced Concrete Roofs. (Sbornye zhelezobetonnyye kryshi).

**PERIODICAL:** Beton i zhelezobeton, 1957, No. 1, pp. 26-28, (U.S.S.R.)

**ABSTRACT:** The Institute of Building Technology of the Academy of Building and Architecture of the USSR (Institut stroitel'noy tekhniki akademii stroitel'stva i arkhitektury SSSR) investigated during 1956 the use of precast roof constructions and gutters which find extensive use in Moscow, Leningrad, Kiev, Erevan and Poltava. A roof construction designed by Mosproekt and erected in 1955 on a Moscow building is described. This construction consists of reinforced concrete roof rafters spaced at 2.4 m centres and reinforced concrete roof slabs (6 cm thick) with a 8 m<sup>2</sup> area. The slab is painted with lacquer (No. 177) to prevent water penetration. The roof space is ventilated by louvered openings which are situated at both ends. Under these conditions the air exchange/hour was 0.3 of the total volume of air. The difference of temperature under and outside the roof was 5 - 12 C. These unusual loft conditions

Card 1/3

97 - 1 - 7/10

## TITLE:

Assembled Reinforced Concrete Roofs. (Sbornye zhelezobetonnyye kryshi).

caused considerable condensation and the formation of up to 8cm thick ice layer on the underside of the slab during the winter months. It was therefore necessary to increase the insulation on the roof. Testing of the roof slab showed that the weight - saturation ratio of the upper layers of the slab was 8.9%, of the lower layer 9.9%. It can be assumed that approximately a quarter of the thickness of the slab is saturated with water. The freezing water initiates such conditions in the pores of the slab that flaking of concrete occurs. The resulting stresses are in the range of hundreds of kg/cm<sup>2</sup>. It was also found that the water-proofing lacquer was unable to prevent water penetration. Satisfactory results were obtained from tests with concealed steel welded gutters. Further work was carried out on other Soviet and foreign (Czechoslovak, GDR) reinforced concrete roof constructions consisted of mesh-reinforced corrugated slabs (specifications: width 58 or 118 cm, waves 30 cm centres, over-all depth of the

Card 2/3

SOV/97-58-11-4/11

AUTHOR: Khlusov, I.Ye. (Candidate of Technical Sciences)

TITLE: Building Practice and Use of Precast Reinforced Concrete Roof Constructions and Coverings. (Praktika stroitel'stva i ekspluatatsii sbornykh zhelezobetonnykh krovель i pokrytiy )

PERIODICAL: Beton i Zhelezobeton, 1958, Nr.11, pp.417-420 (USSR)

ABSTRACT: In 1957 120 million m<sup>2</sup> of bituminous felt roofing was laid in USSR. Under it, reinforced concrete decking 1 m<sup>2</sup> in area and 3 cm thick was used. The slabs were insulated against condensation and heat, covered with cement screed and, finally, layers of waterproof felting. These roof constructions did not develop defects if expansion joints were provided. Defects occurring in roof coverings can be explained by variations in deflections, increased thermal deformations of large reinforced concrete elements, and decreased elasticity of the roof covering material at low temperatures. These defects can partly be eliminated by covering over the joints between panels with a 30 cm. wide bitumenized strip of glass fibre, or by filling the

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joints with plastic material (e.g. polymer-concrete). Reinforced concrete roof panels used for industrial buildings are usually joined together by welding or by bolting together. Tests were carried out on precast reinforced concrete roofing assembled from panels types PKZh and KAP and floor slabs NK 64-12 to investigate the behaviour of waterproof roof-covering material in relation to thermal and humidity conditions, and suitability for gutter construction. These investigations showed that defects did not occur during summer, but during winter defects did appear in the roofing material along the joints of the panels. In roofs constructed from slabs PKZh or slabs NK 64-12, 464 gypsum "movement indicators" were provided underneath the roof slabs, to check expansion and contraction. During the summer only 3 cracks, approximately 1 mm wide, were found, but during winter 360 cracks between 0.5 and 2 mm wide and 102 hair cracks were found. These cracks caused defects in the layers of roofing material. The hair cracks were caused by the decrease in plasticity of the

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roofing material when the temperature dropped to  $-23^{\circ}\text{C}$ . At this low temperature the bitumen completely loses plasticity and becomes as brittle as glass. Experiments proved that precast reinforced concrete segmental slabs are more advantageous as a base for bituminous felt roofing. Fig.1 illustrates a construction of precast prestressed tapering roof slab spanning 18 m. Similar roof slabs were investigated by the Institute for Concrete and Reinforced Concrete, and the Institute for Building Constructions, ASIA of the USSR (Institut betona i zhelezobetona i Institut stroitel'nykh konstruktsiy ASIA SSSR). The Institute for Building Constructions gives the thickness of segmental slabs without connecting ribs, made from precast reinforced concrete, and used for industrial buildings, as 7.7 cms, and the consumption of steel as  $12.2 \text{ kg/m}^2$ . The thickness of large flat reinforced concrete roof slabs PKZh (GOST 7740-55) is 9.3 cm and consumption of steel  $13.5 \text{ kg/m}^2$ . Investigations showed that in roof constructions with lofts in which roof slabs PKZh and floor slabs

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NK 64-12 were used efficient ventilation of the loft space was necessary. It was also found that towards the end of winter in unventilated roof constructions the mean humidity reached 12%, and at the soffit of the roof slab 16.2%. Fig.2 shows details of roof ventilation; Fig.3: a section through the roof gutter; Fig.4: detail of arched roof slabs, ventilation and gutter arrangement. There are 4 figures.

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KUZNETSOV, G.F.; KHLUSOV, I.Ye., kand.tekhn.nauk; SHOLOKHOV, V.G., inzh.;  
Prinimali uchastiye: AKBULATOV, Sh.F., kand.tekhn.nauk;  
KRICHEVSKAYA, Ye.I., kand.tekhn.nauk; DOROKHOV, A.N., inzh.;  
NIKIFOROV, I.A., kand.tekhn.nauk; BOGDANOV, B.N., inzh.; AVRUTIN, Yu.Ye., inzh.; VISHNEVSKIY, N.D., inzh.; ARIYEVICH, E.M.,  
kand.tekhn.nauk; LEVITAN, Ye.P., inzh.; TUPOLEV, M.S., prof.,  
doktor arkhitektury. TEMKIN, L.Ye., inzh., red.; KHAVIN, B.N.,  
red.izd-va; BOROVNEV, N.K., tekhn.red.

[Temporary instruction (SN 51-59) for planning and constructing  
combined roofs of residential and public buildings] Vremennyye  
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(Continued on next card)



KUZNETSOV, G.P.---(continued) Card 2.

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva.
2. Nauchno-issledovatel'skiy institut stroitel'noy fiziki i ogranichayushchikh konstruktsey Akademii stroitel'stva i arkhitektury SSSR (for Kuznetsov, Khilov, Sholokhov).
3. Direktor Nauchno-issledovatel'skogo instituta stroitel'noy fiziki i ogranichayushchikh konstruktsey Akademii stroitel'stva i arkhitektury SSSR; deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Kuznetsov).
4. Nauchno-issledov.institut zhilishcha (for Akbulatov, Krichevskaya).
5. Nauchno-issledov.institut proyektirovaniya Akademii stroitel'stva i arkhitektury SSSR (for Dorokhov).
6. Nauchno-issledov.institut po stroitel'stvu Ministroya RSFSR (for Nikiforov).
7. Gorstroyproyekt (for Bogdanov).
8. Mosstroyekt (for Avrutin, Vishnevskiy).
9. Akademiya kommunal'nogo khozyaystva im. K.D. Pamfilova (for Ariyevich, Levitan).
10. Moskovskiy arkhitekturnyy institut (for Tupolev).

(Roofs, Concrete)

KHLUSOV

1. Ye.

1959

*penelope*

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 BELITSKY, Yu. I. - "Research on conditions of work and ultimate state of steel frames of industrial buildings" (Session II)  
 BUDY, O. Ya. - "Research on the concrete strength theory" (Session II)  
 BOGDANOV (rus) (probably Nikolay N. Bogdanov) and KILIMOV (rus) - "General regulations adopted in BSW" Instructions on design, erection and maintenance of flat roofs in the USSR and the result of recent investigation of flat roof structures in the USSR" (Session VI)  
 BORTSEVICH, M. S. - "Resistance of reinforced concrete members to the effect of transverse forces" (Session II)  
 OBERG, A. A., Prof. Dr. - "Present state and problems of design of building structures" (Session II)  
 KURATOV, Grigoriy P., Prof. - "Eastern European experience" (Session IV)  
 KURATOV, N. V., and KURATOV, P. V. - "Problems of joining heavy elements in precast dwellings" (Session IV)  
 KURATOV, V. I., Prof. Dr. - "Resistance to cracking and stiffness of reinforced concrete members" (Session II)  
 OVSYANNIK, V. I., Prof., President of Session II; also scheduled to present a paper in Session II, title not given. Member of the Steering Committee for the Congress.  
 KURATOV, Aleksey R., Prof. Dr. - "Design of carrying capacity of slabs and shells by the limit balance method" (Session II)  
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 DRAMPOV, V.K., inzh.; KHLUSOV, I.Ye., kand.tekhn.nauk; POVALYAYEV,  
 M.I., kand.tekhn.nauk; SHOLOKHOV, V.G., inzh.; TEMKIN, L.Ye., inzh.,  
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 Drampov). 3. Nauchno-issledovatel'skiy institut stroitel'noy fiziki  
 i ograzhdayushchikh konstruktsey Akademii stroitel'stva i arkhitektury  
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1ST AND 2ND COPIES		PROCESS AND PROPERTIES INDEX		3RD AND 4TH COPIES	
CA		15			
<p>The intensity of the decomposition of organic substances in the soil in relation to the kind of absorbed cation. M. G. Chizhinski and M. M. Khachaturov. <i>Chemization</i></p> <p><i>Soviet Agr.</i> 1933, No. 1, 106-12; cf. <i>C. A.</i> 27, 3760. The authors conducted a series of expts. on the effect of the cations Ca, Na, H (with and without <math>\text{CaCO}_3</math>), and <math>\text{Fe}^{+++}</math> in the soil-absorbing complex on nitrification, <math>\text{CO}_2</math> production, N fixation, and nos. of fungi and bacteria. Ca increased nitrification, cellulose decompn. and the no. of adsorbed microorganisms added. H and <math>\text{Fe}^{+++}</math> decreased nitrification and increased the adsorption of microbes added. Na-satd. soil does not adsorb as many microbes as soil satd. with Ca, H or Fe.</p> <p style="text-align: right;">J. S. Joffe</p>					
<p>ASAC-11.4 METALLURGICAL LITERATURE CLASSIFICATION</p> <p>FROM 11/10/33</p>					
SEARCHED		SERIALIZED		INDEXED	
11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100		11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100		11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100	

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Author : Khlustsov, K. A.

Inst : Leningrad Institute of Advanced Veterinary Train-  
ing.

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Card 1/1

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SARAYEVA, N.T.; MASTYUKOVA, Yu.N.; IGNAT'YEVA, G.V.; LEDENEVA, A.G.;  
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